REMARKS

Consideration and allowance is respectfully requested.

Before entry of this amendment, claims 1-23 were pending. In the Office Action, claims 1-20 were allowed, claims 21 and 23 were rejected and claim 22 was objected to. In the present amendment, claims 15 and 18-22 are amended, and claims 24-25 are added. After entry of the amendment, claims 1-25 are pending.

I. Claim 22

Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. (See Office Action, p. 3, lines 2-4.) Applicants amend claim 22 to include all of the limitations of the base claim 21. Withdrawal of the objection to claim 22 is respectfully requested.

II. Rejection of claims 21 and 23

Claims 21 and 23 are rejected under 35 U.S.C. §103(a) as being unpatentable over Newton et al. (US Patent No. 6,198,401) (Office Action, p. 2, lines 10-11). To established a *prima facie* case of obviousness, the Examiner must demonstrate three criteria. The MPEP § 2142 states:

> "To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claimed limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure . . .. 'To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been

> obvious in light of the teachings of the references.' Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985)." MPEP § 2142 (emphasis added).

A. Independent claim 21

Claim 21 recites "a first means for detecting a fast electromagnetic transient (EFT) fault having a duration of less than two hundred nanoseconds; . . .." The Examiner states,

> "Newton shows an integrated circuit, comprising: a first means (410) for detecting fast electromagnetic transient (EFT) fault" (Office Action, p. 2, lines 12-13).

Newton does not form the basis for a valid rejection of claim 21 under § 103(a) because Newton does not teaches a means for detecting an EFT fault. Second, Newton does not disclose a means for detecting a fault having a duration of less than two hundred nanoseconds. Third, there is no reasonable expectation of success that the circuit disclosed in Newton could detect an EFT fault having a duration of less than two hundred nanoseconds. Finally, it would not have been obvious to one of ordinary skill in the art of detecting faults on integrated circuits to look to the art of detecting faults in cable splices of 60-Hz electrical power distribution systems.

Newton does not teaches a means for detecting an EFT fault. Newton relates to "self-clearing faults" that are orders of magnitude longer than EFT faults on integrated circuits with durations measured in hundreds of nanoseconds. Newton states:

> "In typical power distribution systems, the AC frequency is 60 Hz" (Newton, col. 1 lines 13-14). "Some faults, referred to as self-clearing faults, are too short in duration to be detected by traditional techniques" (Newton, col. 1 lines 28-30). "In FIG.2, the current discharge 110, i.e. fault, begins at around 28 ms and is interrupted 115 4 ms later. The waveform recovers 120 by 36 ms, or 8 ms from the initiation of current discharge. Since a complete cycle 125 has a period τ of about 16 ms, the time between initiation and full

> recovery is less than half a cycle, with the fault being cleared within a quarter cycle. The interruption in the fault is due to heat produced by the fault, which evaporates the water and increases vapor pressure in the splice to extinguish the fault" (Newton, col. 2 lines 49-58) (emphasis added).

The 8-millisecond fault in Newton is 40,000 times longer than the 200 nanoseconds recited in claim 21. The phenomenon in Newton involves water evaporating and increasing the vapor pressure in a cable splice, which occurs over time periods that are orders of magnitude longer than EFT faults on integrated circuits.

Newton does not disclose a means for detecting a fault having a duration of less than two hundred nanoseconds. The fast detection element 410 cited by the Examiner employs a comparator 530 to detect that a fault has occurred. Newton states, "In the element 410, a comparator 530 compares the generic magnitude estimate 520 to the external threshold setting 415, . . . A comparator output of 1 indicates that the magnitude 520 is greater than the threshold setting 415 (i.e., that a fault has occurred), ..." (Newton, col. 4, lines 49-54) (emphasis added). Newton does not disclose that the response of the comparator is anywhere near 200 nanoseconds.

There is no reasonable expectation of success that the fast detection element of Newton could detect an EFT fault having a duration of less than 200 nanoseconds using comparator 530. It is not likely that a circuit that detects a fault when water penetrates into a cable splice carrying 60-Hz electrical power could detect a supply voltage fluctuation on an integrated circuit that lasts for less than 200 nanoseconds.

Finally, detecting faults in 60-Hz current that involves water evaporating and increasing the vapor pressure in a cable splice is not analogous art to detecting high voltage transients in integrated circuits, for example, transients due to electromagnetic interference (EMI) and electrostatic discharges (ESD). One of ordinary skill in the art of detecting faults in semiconductors would not look for solutions in the field of 60-Hz electrical power distribution systems.

For these four reasons, reconsideration of the § 103(a) rejection and allowance of claim 21 are requested.

B. Independent claim 23

Claim 23 recites "wherein each of said detectors is capable of detecting a fast electromagnetic transient (EFT) fault having a duration of less than two hundred nanoseconds; . . .."

Newton does not form the basis for a valid rejection of claim 23 under § 103(a) because Newton does not teaches a detector capable of detecting an EFT fault. Second, Newton does not disclose a detector that detects a fault having a duration of less than two hundred nanoseconds. Third, there is no reasonable expectation of success that the circuit disclosed in Newton could detect a fault having a duration of less than two hundred nanoseconds. Finally, it would not have been obvious to one of ordinary skill in the art of detecting faults on integrated circuits to look to the art of detecting faults in cable splices of 60-Hz electrical power distribution systems.

For these four reasons, reconsideration of the § 103(a) rejection and allowance of claim 23 are requested.

III. New claims 24-25

Applicant is adding new claims 24-25, each of which is supported by the specification and allowable over the cited reference. No new matter is added.

IV. Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that the entire application is in condition for allowance. A Notice of

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Allowance is respectfully requested. If the Examiner would like to discuss any aspect of this application, the Examiner is requested to contact the undersigned at (925) 621-2121.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

By _____
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Respectfully submitted,

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